CLAIMS

What is claimed as the invention is:

1. A replication-conditional virus with a genome comprising adenovirus replication genes and at least one heterologous gene that replaces a function of the adenovirus E1a gene.

2. The virus of claim 1, which is a cytolytic virus.

3. The virus of claim 1, wherein the heterologous gene is selected from Y-box transactivators, the immediate early genes of cytomegalovirus (CMV), and the oncogenes of human papillomavirus (HPV).

4. The virus of claim 3, wherein the heterologous gene is YB-1.

5. The virus of claim 3, wherein the heterologous gene is CMV IE1 or CMV IE2.

6. The virus of claim 3, wherein the heterologous gene is HPV E6, or HPV E7.

7. The virus of claim 1, wherein the heterologous gene (or another gene required for replication or assembly of the virus) is under control of a tissue or tumor specific transcriptional control element.

8. The virus of claim 7, wherein the transcriptional control element is a tissue specific promoter, which is a promoter for albumin, α-fetoprotein, prostate-specific antigen (PSA), mitochondrial creatine kinase (MCK), myelin basic protein (MB), glial fibrillary acidic protein (GFAP), or neuron-specific enolase (NSE).

9. The virus of claim 7, wherein the transcriptional control element is a tumor specific promoter, which is a promoter for telomerase reverse transcriptase (TERT), carcinoembryonic antigen (CEA), hypoxia-responsive element (HRE), *Grp78*, L-plastin, or hexokinase II.

10. The virus of claim 9, wherein the promoter comprises at least 25 consecutive nucleotides in SEQ. ID NO:1.

11. A host cell containing the virus of claim 1.

12. A method for selecting a virus according to claim 1, comprising transducing a host cell with a virus lacking an adenovirus gene required for replication or assembly, but comprising a heterologous gene; and determining whether replicated virus is produced by the cell

13. A method for killing a cancer cell, comprising contacting the cell with the virus of claim 7.

14. A method for killing a cell expressing telomerase reverse transcriptase (TERT), comprising contacting the cell with the virus of claim 10.

15. The method of claim 13, wherein the cancer is lung cancer, pancreatic cancer, medulloblastoma, cervical carcinoma, fibrosarcoma, or osteosarcoma.